

REMARKS/ARGUMENTS

Claims 1-20 are pending in the present application. Claims 2, 6-8, 12-14, 18 and 19 have been amended, and Claim 20 has been added, herewith. Reconsideration of the claims is respectfully requested.

I. 35 U.S.C. § 101

Claims 7-18 stand rejected under 35 U.S.C. § 101 as being directed towards non-statutory subject matter. This rejection is respectfully traversed.

With respect to Claim 7 (and dependent Claims 8-12), the Examiner states that such claim is directed to software per se and therefore is non-patent eligible. Applicants have amended Claim 7 to explicitly recite that the memory is an element of the data processing system. Thus, Claim 7 is not directed to software per se, but instead is directed to a data processing system (i.e. a machine) comprising a memory.

With respect to Claim 13 (and dependent Claims 14-18), such claim recites that the computer program product is encoded in a computer readable medium for identifying device configurations, as specifically allowed for per the requirements of MPEP 706.03(a) and 2106. See, in particular, MPEP 2106(IV)(B)(1)(a) where it states:

“A claimed computer-readable medium encoded with a data structure defines structural and functional interrelationships between the data structure and the computer software and hardware components which permit the data structure's functionality to be realized, and is thus statutory. See *Lowry*, 32 F.3d at 1583-84, 32 USPQ2d at 1035.”

Accordingly, as Claim 13 expressly recites a computer program product encoded in a computer readable medium for identifying device configurations, it is shown that Claim 13 (and similarly for Claims 14-18) is directed to statutory subject matter, pursuant to both judicial case law and the USPTO's own MPEP rules.

Still further, Claim 13 explicitly recites a computer program product encoded in a computer readable medium for identifying device configurations, which is either a ‘manufacture’ or a ‘composition

of matter', both of which are statutorily recognized subject matter¹. In addition, since Claim 13 explicitly recites a computer program product encoded in a computer readable medium for identifying device configurations, such claim does *not* fall within one of the three judicially determined exceptions of: natural phenomenon, law of nature or abstract idea (see, e.g., MPEP 2106 and in particular MPEP 2106(IV)(B) and (C)), but instead is limited to a practical application in the technological arts². Thus, it is further shown that Claim 13 has been erroneously rejected under 35 U.S.C. § 101 as the invention recited therein does not fall within a judicial exception but instead is limited to a practical application in the technological arts.

The Examiner notes concern that the claimed computer-readable medium may encompass transmission-type media, which the Examiner asserts to be non-statutory *without providing any legal basis*, either pursuant to the MPEP, statutory law, or judicial precedent. Appellants respectfully submit that both *In re Lowry, Id.* and the MPEP explicitly state that computer-readable medium encoded with a data structure is statutory – without any type of transmission-media exception as now alleged by the Examiner to be the current state of the law. Because it is permissible to claim information embodied in a storage medium (*In re Beauregard*, 53 F.3d 1583 (Fed. Cir. 1995)), it is worth noting that the "difference between information storage and information communication is fundamentally only a difference in one's inertial frame of reference." Michael P. Frank, "The Physical Limits of Computing," Computing in Science & Engineering, May/June 2002, at 24. The following six cases conclusively establish judicial precedent that electrical signals – such as transmission-type media - are physical, and statutory under 35 U.S.C. § 101.

In *AT & T Corp. v. Excel Communications Inc.*, 172 F.3d 1352, 50 USPQ2d 1447 (Fed. Cir. 1999), the CAFC stated at one point about electrical signals being physical:

The Arrhythmia court reasoned that the method claims qualified as statutory subject matter by noting that the steps **transformed physical, electrical signals from one form into another.**

Turning to *Arrhythmia Research Technology Inc. v. Corazonix Corp.*, 958 F.2d 1053, 22 USPQ2d 1033 (Fed. Cir. 1992), the CAFC wrote about electrical signals being physical:

¹ 35 U.S.C. 101 Inventions patentable. Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

² *Only when* the claim is devoid of any limitation to a practical application in the technological arts should it be rejected under 35 U.S.C. § 101. Compare *Musgrave*, 431 F.2d at 893, 167 USPQ at 289; *In re Foster*, 438 F.2d 1011, 1013, 169 USPQ 99, 101 (CCPA 1971).

These claimed steps of "converting", "applying", "determining", and "comparing" are physical process steps that transform one physical, electrical signal into another. **The view that "there is nothing necessarily physical about 'signals' is incorrect**, citing *In re Taner*, 681 F.2d 787 (CAFC 1982) (emphasis added by Appellants).

Turning to *In re Taner*, Id., where the PTO was fighting an appeal of a rejection of the PTO Board of Appeals of a claim for a signal, the CCPA (the predecessor court to the CAFC) wrote:

Though the [PTO] board conceded that appellants' process includes conversion of seismic signals into a different form, it took the position that "there is nothing necessarily physical about 'signals'" and that "the end product of [appellants' invention] is a mathematical result in the form of a pure number." That characterization is contrary to the views expressed by this court in *In re Sherwood*, 613 F.2d 809 (CCPA 1980) and *In re Johnson*, 589 F.2d 1020 (CCPA 1978), **where signals were viewed as physical and the processes were viewed as transforming them to a different state.** ... and in *Sherwood* expressly recognized that **"seismic traces are ... physical apparitions."** 613 F.2d at 819. That those "physical apparitions" may be expressed in mathematical terms is in our view irrelevant (emphasis added by Appellants).

The last case is the Supreme Court decision *O'Reilly v. Morse* from 1853 (56 U.S. 62), in which the Supreme Court upheld the following product claim for signals:

1. I claim as my invention the system of signs consisting of dots spaces and of dots, spaces and horizontal lines for numerals, letters, words or sentences substantially as herein set forth and illustrated for telegraph purposes.

So, across decades of judicial decisions, we have the CAFC and the Federal Circuit repeatedly stating that electrical signals are physical, backed up by the Supreme Court. Being physical, such signals are tangible articles. Since such signals can be manufactured according to numerous varieties of technological methods, such signals are articles of manufacture or composition of matter, both of which

are statutory categories of patentability under 35 U.S.C. § 101. Thus, Claim 13 is shown to be statutory under 35 U.S.C. § 101 as it explicitly recites a computer program product encoded in a computer readable medium for identifying device configurations, pursuant to both (extensive) judicial case law and the USPTO's own MPEP rules. Accordingly, Claim 13 (and dependent Claims 14-17) has been erroneously rejected under 35 U.S.C. § 101.

Therefore, the rejection of Claims 7-18 under 35 U.S.C. § 101 has been overcome.

II. 35 U.S.C. § 102, Anticipation

Claims 1, 3-7, 9-13 and 15-19 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Kartoz, U.S. Patent No. 7,024,547. This rejection is respectfully traversed.

With respect to Claim 1, such claim is generally directed to techniques to efficiently determine and process device configuration information in a data processing system. Such efficiency is achieved both in time (reduced time for determining configuration) and in space (reduced storage requirements for maintaining configuration code). A two-pronged approach is used – an initial discovery phase and a rediscovery phase - and due to the unique architecture, the same configuration code is operable in performing both of these different phases of device configuration. In the initial discovery phase, device configuration information is read from the devices (initial device ID) and maintained in a memory region (stored device ID) for subsequent use. In the rediscovery phase, a table is used to access unique device identification information from the devices (current device ID) and compared with unique device identification information maintained in the memory as per the initial discovery phase (stored device ID). *If a match exists between the current device ID and the stored device ID, the stored device ID is moved to another memory/region (moved device ID) such that the previously read device ID (stored device ID) is no longer present in the first memory region.* This moving of the device ID to another memory region (in contrast with a copy operation) facilitates use of the same configuration code for both phases (discovery and rediscovery), as one phase (discovery phase) uses one memory region (buffer memory region 1 of Figure 4) to facilitate the configuration process, whereas the other phase (rediscovery phase) uses the other memory region (temporary memory region 3 of Figure 4) to temporarily store configuration data such that the first memory region can be re-used during completion of the rediscovery phase to facilitate the configuration process. The teachings of the cited reference do not contemplate such memory usage and associated data relocation, which advantageously allows for re-using the same configuration code for both phases (discovery and rediscovery), thereby reducing the requisite amount of firmware code, and its associated (memory/storage) space (Specification page 14, lines 8-12; page 20, lines 6-13 and lines 27-30), in addition to reducing the overall time required to determine configuration information for the devices in the data processing system.

For a prior art reference to anticipate in terms of 35 U.S.C. 102, every element of the claimed invention must be identically shown in a single reference. *In re Bond*, 910 F.2d 831, 15 USPQ2d 1566 (Fed. Cir. 1990). Applicants will now show that every element recited in each of Claims 1, 3-7, 9-13 and 15-19 is not identically shown in a single reference.

Specifically with respect to Claim 1, such claim recites “moving configuration data to a memory for devices in the set of devices in which a match exists between the identified unique identification information and the previously identified unique identification information for devices”. As can be seen, when a match exists between the identified unique identification information and the previously identified unique identification information for a device, *configuration data for such device is moved to a memory*. In rejecting this aspect of Claim 1, the Examiner states this moving of configuration data is taught by the cited Kartoz reference since such reference teaches at col. 4, line 64 – col. 5, line 4:

“if the reference identification data of the device match, the system *uses* the reference initialization data to *initialize the device*”(emphasis added by Applicants)

Applicants respectfully submit that this *use* of reference initialization data to initialize a device does not teach any type of ‘moving’ operation where *configuration data for a device is moved to a memory*. In addition, per Claim 1 this configuration data is moved to a different item (memory) than the item for which the configuration data pertains to (matching device), due to the fact that ‘device’ and ‘memory’ are both used in Claim 1, and thus configuration information for one item (the matching device) is moved to another item (the memory). In contrast, this cited Kartoz passage describes using reference initialization data for a device to initialize the same device. Thus, not only is there no teaching of *moving* configuration data upon occurrence of a match, there is also no teaching of moving configuration data associated with one item (a matching device) to another item (a memory). Therefore, there are at least two claimed features that are not identically shown in the cited reference. First, the cited reference does not teach *moving* of configuration data upon occurrence of a device match. Second, the cited reference does not teach moving configuration data to *a different item* (a memory) *that was not the subject of the ‘match’ determination* (a device), but instead teaches that the same item (memory device) is initialized when this same item (memory device) is ‘matched’. Thus, both (1) the ‘operation’ performed (‘using’ per the cited reference versus ‘moving’ per Claim 1) and (2) the item/thing that the operation is performed upon (the same device as what was ‘matched’ per the teachings of the cited reference, versus a different item/thing from what was ‘matched’ per Claim 1) are different between what is recited in Claim 1 and what is taught by the cited reference. Accordingly, as *every element* is not *identically shown* in a single reference, it is urged that Claim 1 is not anticipated by the cited reference.

As described above in the Claim 1 overview, this moving of configuration data (such movement being from area 1 to area 3 in the preferred embodiment, as described at Specification page 16, lines 25-29) allows for a temporary relocation of the configuration data to a temporary storage area so the source area can be re-used during the rediscovery process (Specification page 16, lines 6-8), which advantageously facilitates use of the configuration code for both the discovery phase as well as the rediscovery phase (Specification page 14, lines 8-12; page 20, lines 6-13 and lines 27-30), in that the first memory region (area 1) is effectively re-initialized at the end of this device match processing due in-part to such moving (Specification page 17, lines 7-10), thereby allowing the first memory region to be used as if it were in an initialized state during the remainder of the rediscovery phase (Specification page 17, lines 11-25). The cited reference does not teach (or otherwise suggest) these claimed features or their resulting advantages. Therefore, it is urged that Claim 1 has been erroneously rejected under 35 U.S.C. § 102, as there are at least two claimed features that are not identically shown in the cited reference.

Applicants initially traverse the rejection of Claims 3-6 for reasons given above with respect to Claim 1 (of which Claims 3-6 depend upon).

Further with respect to Claim 6, Applicants have amended such claim to further emphasize particular features of the table, per the Specification description at page 15, line 25 – page 16, line 6. As amended, Claim 6 recites “wherein the table comprises (i) an index used to locate particular configuration data for a particular device, (ii) information used to address the particular device, and (iii) an offset to a memory location within the particular device at which particular unique identifier information for the particular device is stored”. It is urged that the table that is alleged to be taught by the cited Kartoz reference does not include each of these explicitly enumerated items, and these enumerated items advantageously facilitate access to particular parameters within the devices such as configuration data and unique identifier information for such devices. In contrast, the alleged Kartoz table (per the cited teachings of Kartoz at col. 4, lines 44-55) is maintained *internal to the device itself*, and thus there would be no need or other motivation for this internal device table to contain information on how to access device parameters within this same device. Restated, there would be no reason to modify Kartoz’ internal device table to include parameters to facilitate access to this device or its table since such device access information would need to be known by some other means/mechanism in order to access this device internal table – in effect a catch twenty-two situation. Thus, in addition to not being anticipated by this cited reference, it is urged that Claim 6 is not obvious in view of this cited reference.

Applicants traverse the rejection of Claims 7, 9-13 and 15-19 for similar reasons to those given above with respect to Claim 1.

Applicants further traverse the rejection of Claims 12 and 18 for similar reasons to the further reasons given above with respect to Claim 6.

Therefore, the rejection of Claims 1, 3-7, 9-13 and 15-19 under 35 U.S.C. § 102(e) has been overcome.

III. 35 U.S.C. § 103, Obviousness

Claims 2, 8 and 14 stand rejected under 35 U.S.C. § 103 as being unpatentable over Kartoz in view of Zintel, U.S. Patent No. 6,779,004. This rejection is respectfully traversed.

Applicants initially traverse the rejection of Claim 2 (and similarly for Claims 8 and 14) for similar reasons to those given above with respect to Claim 1, and urge that the newly cited Kartoz reference does not overcome the teaching deficiencies identified above with respect to Claim 1.

Further with respect to Claim 2 (and similarly for Claims 8 and 14), Applicants have amended such claim in accordance with the Specification description at page 16, line 13 – page 17, line 25. It is urged that none of the cited references teach or otherwise suggest such a memory configuration, which advantageously allows for using the first memory area during both the discovery phase and the rediscovery phase, as data from the discovery phase is moved to a temporary location in the another memory area prior to completing the rediscovery phase such that the first area can be re-used by the rediscovery phase completion (Specification page 13, line 5 – page 14, line 3), thereby advantageously mitigating both time (less processing) and space (reducing firmware/code size) requirements (Specification page 14, lines 4-12).

Therefore, the rejection of Claims 2, 8 and 14 under 35 U.S.C. § 103 has been overcome.

IV. New Claim

Claim 20 has been added herewith. It is urged that such claim is allowable due to its dependency on Claim 19 (which has been shown above to be allowable in view of the cited reference), and in addition is allowable for similar reasons to those given above with respect to Claim 6.

V. **Conclusion**

It is respectfully urged that the subject application is patentable over the cited references and is now in condition for allowance. The Examiner is invited to call the undersigned at the below-listed telephone number if in the opinion of the Examiner such a telephone conference would expedite or aid the prosecution and examination of this application.

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Respectfully submitted,

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